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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/775,005	02/01/2001	Shinichiro Aizaki	01054/LH	7481

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EXAMINER	
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ART UNIT	PAPER NUMBER
2613	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)	
	09/775,005	AIZAKI ET AL.	
	Examiner	Art Unit	
	Tung T. Vo	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-9,11-14,17-23,25-29 and 31-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-4,6-7,11-14,17-23, 25, 27, 31-34,37-39* is/are rejected.

7)☒ Claim(s) *5,8,9,26,28,29,35 and 36* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 February 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 14 is rejected under 35 U.S.C. 102(b) as being anticipated by Kojima (US 5,703,714) as set forth in the previous Office Action, Paper No. 10.

3. Claims 14 is rejected under 35 U.S.C. 102(b) as being anticipated by Kawasaki (US 4,661,692) as set forth in the previous Office Action, Paper No. 10.

4. Claims 2-4, 6-7, 11-12, 14, 25, 27, 31-34, 37-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoneyama et al. (US 5,933,513).

Re claims 2-4, 6-7, 14, 25, 27, and 31-34, Yoneyama discloses a microscope system (fig. 1) in which an electronic camera (14 of fig. 1) is used to pick up an observation image by a microscope (1 of fig. 1), comprising a controlling section (23 of fig. 1) for setting an image pickup operation of an image pickup element in said electronic camera (21-25, and 28 of fig. 1) to an optimum state (col. 3, lines 38-55) in accordance with a state of at least one of an optical system combination (7, 27-29 of fig.

1) for a projection magnification of at least an objective lens (27 of fig. 1) and a photo eyepiece (14a, 14 of fig. 1) on a microscope side, an observation method (21, 24, 25, 26 of fig. 1), and lighting conditions (16 of fig. 1).

a microscope controlling section (23 of fig. 1) for controlling an operation of said microscope; an image pickup element driving section (23, 28 and 29 of fig. 1; S5 and S8 of fig. 3) for driving said image pickup element, wherein said controlling section sets an image pickup element drive mode of said image pickup element driving section to a high speed drive mode (23 of fig. 1, note the CPU is perform all operations with a high speed, so the pickup element driving section can be set at a high speed drive mode stored in the storages (28 and 29 of fig. 1)), while the controlling section detects operation information outputted from said microscope controlling section (23 of fig. 17);

an image pickup element driving section (col. 3, lines 11-14) for driving said image pickup element, wherein said controlling section sets a binning number of said image pickup element driving section (29 of fig. 1, note the binning number of the image pickup element is the pixel size, see col. 6, lines 1-5, and col. 7, lines 15-21) based on an objective lens type (7 of fig. 1) outputted from said microscope controlling section (CPU 23 of fig. 1);

an image forming lens (13 of fig. 1) and an intermediate magnification change (29, 30, and 7 of fig. 1)

wherein said controlling section comprises a memory (27-29 of fig. 1) in which a table of the objective lens type and the corresponding binning number is stored (28 of fig. 1), compares the objective lens type (7 of fig. 1) outputted from said microscope controlling section (23 of fig. 1) with said table to determine the binning number (pixel

size, fig. 7, see also col. 8 and 9), and sets the binning number as the binning number of said image pickup element driving section (29 of fig. 1, note setting the pixel sized as binning number of the CCD camera (14 of fig. 1), see also fig. 6 and 7A-7C).

Re claims 11 and 37, Yoneyama further discloses an AE calculating section (15 of fig. 1) for performing an automatic exposure control (16-19 of fig. 1), wherein said controlling section comprises a memory (27 of fig. 1) in which an AE calculation mode table of an observation method (21, 24, 24, 26 of fig. 1) and a corresponding exposure calculation mode is stored, compares the observation method outputted from said microscope controlling section with said table to determine the exposure calculation mode (figs. 3, 4 and 5).

Re claims 12 and 38, Yoneyama discloses a microscope controlling section (23 of fig. 1) for controlling an operation of said microscope (1 of fig. 1); and a frame memory (34 of fig. 1, note a personal computer inherently has a frame memory for storing the picked up image) for storing image data picked up by said image pickup element, wherein said controlling section (23 and 34 of fig. 1, note the personal computer is operated by a user to be able to write data, text on the image) stops rewriting of the image data to said frame memory, while the controlling section (23 of fig. 1) detects information of light path change (15 of fig. 1) of said microscope outputted from said microscope controlling section (23 of fig. 1).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 13 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneyama et al. (US 5,933,513) as applied to claim 2, and further in view of Garner et al. (US 6,337,472 B1).

Re claim 13, Yoneyama teaches the CCD camera (14 of fig. 1) but Yoneyama does not particularly disclose a cooling section for cooling said image pickup element as claimed.

However, Garner further discloses a cooling section for cooling said image pickup element (28 of fig. 1, note that the imaging spectrometer (28) is an ARC imaging spectrograph and the camera (30 of fig. 1) a Photometrix cooled CCD camera), wherein said controlling section (32 of fig. 1) changes a set temperature set to said cooling section in accordance with an observation method outputted from said microscope controlling section (note the imaging spectrograph (28 of fig. 1)is controlled by the computer (32 of fig. 1) using an imaging spectrograph control panel).

Therefore, Taking the teachings of Yoneyama and Garner as a whole, it would have been obvious to one of ordinary skill in the art to modified the cooled (set temperature) camera of Garner into the microscope system to perform a high sensitivity image captured by the camera. Doing so would reduce the cost.

7. Claims 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneyama et al. (US 5,933,513) as applied to claim 14, and further in view of Kawasaki (US 4,661,692).

Re claims 17-22, Yoneyama suggest a memory (the restoration filter setting means changes the set values for the restoration filter on the basis of the relative relationship between the size of a light receiving element incorporated in the image pick-up means, and the range of an integrated point image distribution on a light receiving element, which is determined by the numerical aperture and the pupil function of the image forming system and also by the wavelength of image forming light) in which a shading correction pattern in accordance with an objective lens type and a zoom magnification of the intermediate magnification change optical system is stored (23, 28, 29 of fig. 1), compares the objective lens type and the zoom magnification of the intermediate magnification change optical system outputted from said microscope controlling section with a content of said memory (CPU 23 of fig. 1, note performing the comparison), and sets the shading correction pattern (wherein the CPU 23 sets the objective lens and the intermediate magnification, 29 of fig. 1) in accordance with the zoom magnification of the intermediate magnification change optical system to said image adjusting section; said image adjusting section performs a shading correction of the image data in accordance with the set shading correction pattern (12, 13, 6, 7, 4 of fig. 1).

It is noted that Yoneyama does not discloses a gain correction of the image data corresponding to the position on the image pick up surface of said image pickup element based on the gain correction value said pattern as claimed.

However, Kawasaki further teaches a gain correction value(2 of fig. 1) in accordance with a position on an image pickup surface of said image pickup element is stored, and said image adjusting section performs a gain correction of the image data

corresponding to the position on the image pickup surface of said image pickup element based on the gain correction value of said pattern, and a correcting means for correcting image data from the image pickup device so as not to be influenced by the unevenness of the brightness of each part of the projected image and the irregularity of the characteristics of each picture element forming the image pickup device (col. 2, lines 22-29).

Taking the combined teachings of Yoneyama and Kawasaki as a whole, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Kawasaki into the microscope system of Yoneyama for the same purpose of performing shading correction of the image data so that the aperture step and magnification of the photographing eyepiece will automatically be optimum for observation or photographing. Doing so would improve the quality of the image.

8. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneyama et al. (US 5,933,513) as applied to claim 14, and further in view of Hayashi (US 5,833,617).

Re claim 23, Yoneyama further discloses a microscope controlling section (23 of fig. 1) for controlling an operation of said microscope (1 of fig. 1); and an image adjusting section (7 and 13 of fig. 1) for adjusting image data picked up by said image pickup element. It is noted that Yoneyama does not particularly teaches wherein said controlling section comprises a memory in which a color matrix in accordance with lighting conditions is stored, compares the lighting conditions outputted from said microscope controlling section with a content of said memory, and sets the color matrix

in accordance with the lighting conditions to said image adjusting section, and said image adjusting section performs a color conversion of the image data in accordance with the set color matrix as claimed.

However, Hayashi teaches wherein said controlling section comprises a memory in which a color matrix in accordance with lighting conditions is stored, compares the lighting conditions outputted from said microscope controlling section with a content of said memory, and sets the color matrix in accordance with the lighting conditions to said image adjusting section, and said image adjusting section performs a color conversion of the image data in accordance with the set color matrix (see 210, 217 of fig. 16; note in the video signal forming circuit (217 of fig. 16), the ordinary image signals are subjected to digital-to-analog conversion, color matrix processing, and encoding).

Therefore, taking the combined teachings of Yoneyama and Hayashi as a whole, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Hayashi into the microscope of Yoneyama for performing the color matrix. Doing so would provide a optimal state stop and brightness in accordance with a selected observation method.

Response to Arguments

9. Applicant's arguments filed 05/21/04 have been fully considered but they are not persuasive.

The applicant argued that none of Kojima and Kawasaki discloses or teaches an adjusting operation of an image picked up by the electronic camera to an optimum state in accordance with a state of at least one of an optical system combination for a

projection magnification of at least an objective lens and a photo eyepiece on a microscope side, an observation method, and lighting conditions, page 30 of the remarks.

The examiner respectfully disagrees with that applicant. It is submitted that Kawasaki discloses or teaches an adjusting operation of an image picked up by the electronic camera to an optimum state in accordance with a state of at least one of an optical system combination for a projection magnification of at least an objective lens and a photo eyepiece on a microscope side, an observation method, and lighting conditions (col. 2, line 67- col. 2 line 47, note .... to be optimum for observation or photographing, see col. 2, lines 30-47, wherein the apparatus is disclosed in the figures 2 and 3).

Furthermore, Kojima discloses or teaches an adjusting operation of an image picked up by the electronic camera to an optimum state in accordance with a state of at least one of an optical system combination for a projection magnification of at least an objective lens and a photo eyepiece on a microscope side, an observation method, and lighting conditions (col. 1, line 45-col. 2, line 15, note an optimal sate stop and brightness...). In view of the discussion above, Kawasaki or Kijima anticipates the claimed features.

The applicant further argued that Yoneyama does not disclose or suggest setting an image pickup element drive mode of image pickup element driving section to a high speed drive mode, while the controlling section detects operation information outputted from the microscope controlling section, page 27 or the remarks.

The examiner respectfully disagrees with the applicant. It is submitted that Yoneyama discloses a microscope controlling section (23 of fig. 1) for controlling an

operation of said microscope; an image pickup element driving section (23, 28 and 29 of fig. 1; S5 and S8 of fig. 3, see also col. 1, lines 11-14) for driving said image pickup element, wherein said controlling section sets an image pickup element drive mode of said image pickup element driving section to a high speed drive mode (23 and 7 of fig. 1, note the CPU performs all operations with a high speed, so the pickup element driving section can be set at a high speed drive mode that is stored in the storages (28 and 29 of fig. 1)), while the controlling section detects operation information outputted (14 of fig. 1) from said microscope controlling section (23 of fig. 17).

Moreover, Yoneyama teaches an image pickup element driving section (col. 3, lines 11-14) for driving said image pickup element, wherein said controlling section sets a binning number of said image pickup element driving section (29 of fig. 1, note the binning number of the image pickup element is the pixel size, see col. 6, lines 1-5, and col. 7, lines 15-21) based on an objective lens type (7 of fig. 1) outputted from said microscope controlling section (CPU 23 of fig. 1). In view of the discussion above, Yoneyama anticipates the claimed features.

Allowable Subject Matter

10. Claims 5, 8-9, 26, 28-29, 35, and 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See the previous Office Action, Paper No. 10.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung T. Vo whose telephone number is (703) 308-5874. The examiner can normally be reached on 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris. Kelley can be reached on (703) 305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TUNG T. VO
PATENT EXAMINER

T.Vo

Tung T. Vo
Primary Examiner
Art Unit 2613